A NEW COMBINATION IN *BOUTELOUA* (POACEAE)

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ABSTRACT

The new combination *Bouteloua hirsuta* Lag. subsp. *pectinata* (H. Featherly) J. Wipff & S.D. Jones is proposed. A key to the two subspecies is provided.

RESUMEN

Se propone la nueva combinación *Bouteloua hirsuta* Lag. subsp. *pectinata* (H. Featherly) J. Wipff & S.D. Jones. Se ofrece una clave de las dos subespecies.

Bouteloua hirsuta M. Lagasca y Segura subsp. **pectinata** (H. Featherly) J. Wipff & S.D. Jones, comb. et stat. nov. BASIONYM: *Bouteloua pectinata* H. Featherly, Bot. Gaz. 91:103. 1931. *Bouteloua hirsuta* var. *pectinata* (H. Featherly) V. Cory, Rhodora 38:405. 1936. TYPE: UNITED STATES. OKLAHOMA. Comanche Co.: near Fort Sill, 17 Aug 1929, *B. English 71* (HOLOTYPE: US).

Bouteloua pectinata, closely related to *B. hirsuta*, has been recognized at various taxonomic ranks: Roy and Gould (1971) and Gould (1975, 1979) recognized this taxon as a distinct species; Cory (1936) recognized it as a variety of *B. hirsuta*; and Hitchcock (1935) and Chase (1951) treated it as a synonym of *B. hirsuta* without any infraspecific rank. The two taxa can be distinguished by the following characters (Roy & Gould 1971):

1. Tuft of trichomes present at the base of the lowermost rudimentary floret; anthers ca. 3 mm long; culms 37–75 cm tall, strictly erect, unbranched, usually with three nodes; the inflorescence axis 25–40 cm long (above uppermost culm leaf) ..... subsp. **pectinata**
1. Tuft of trichomes absent at the base of the lowermost rudimentary floret; anthers 2–2.5 mm long; culms 15–40 cm tall, decumbent at base, usually branched, with 4–6 nodes; the inflorescence axis 10–30 cm long (above uppermost culm leaf) ..... subsp. **hirsuta**

A biosystematic study of *B. pectinata* and *B. hirsuta* by Roy and Gould (1971) resulted in the following conclusions: 1) *B. pectinata* is restricted to well-drained, relatively undisturbed calcareous soils and is most frequent on thin-soiled limestone outcrops, occuring from Pontotoc and Comanche counties, Oklahoma, south to Uvalde County, Texas; 2) *Bouteloua hirsuta*,

found in a wide variety of habitats, is widely distributed and occurs from Wisconsin and Illinois to North Dakota, south to Louisiana, Texas, New Mexico, Arizona, southern California, and northern México; 3) the morphological uniformity of *B. pectinata*, $2n = 20$ populations contrasts strikingly to the morphological variability observed in the diploid plants $2n = 20$, of *B. hirsuta.* Usually associated with diploid *B. hirsuta* are plants with widely varying chromosome numbers, e.g. $2n = 22, 24, 26, 28, 30, 32, 34, 36, 40, 42, 43, 44, 45, 46, 48, 50, 52, 53, 54, 56, 58$, and 60 (Roy 1968); 4) where populations of the two taxa are sympatric, swarms of putative hybrid plants are found that are intermediate in some or all of the critical morphological characteristics; and 5) for the most part, these putative hybrid swarms are found only along the margins of typical *B. pectinata* sites (when populations of *B. hirsuta* are also present). Sites in Kendall County, Texas appear to be representative of the ecological distribution and separation of the two taxa. Roy and Gould (1971) stated, "Throughout this area the two species, *B. hirsuta* and *B. pectinata*, were intermingled in slightly disturbed road right of way sites. *Bouteloua hirsuta* predominated at the base of the slopes and in the gulleys [*sic*] and ditches, and *B. pectinata* was most abundant on the ledges and hilltops. Intermediate plants were abundant."

From these data, *B. pectinata* is restricted in its geographic distribution, occupies a specific ecological site, and is generally ecologically allopatric and morphologically distinct from *B. hirsuta*. However, there are putative hybrid swarms at the boundary where the two taxa come in contact. These swarms show an integration of morphological characters between the two taxa indicating a lack of complete reproductive isolation. These data warrant the recognition of *B. pectinata* at the subspecific rank.

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